

CLAIM AMENDMENTS:

Please cancel Claims 6-7, 13 and 15-20, and add new claims 21-30 as follows:

Claim 1. (currently amended) A combustible gas sensor comprising:
[[an]] a catalytically active element in electrical connection with a measurement circuit, the measurement circuit including a thermistor network to compensate for the effect of changes in ambient temperature to the resistance of the catalytically active element.

Claim 2. (original) The combustible gas sensor of claim 1 wherein the thermistor network includes a thermistor and at least one resistor.

Claim 3. (original) The combustible gas sensor of claim 2 wherein the thermistor network includes a first resistor in series electrical connection with the thermistor and a second resistor in parallel electrical connection with the thermistor.

Claim 4. (original) The combustible gas sensor of claim 3 wherein the resistance of the thermistor increases with increasing temperature, the thermistor being in one leg of a bridge circuit and the active element being in another leg of the bridge circuit.

Claim 5. (original) The combustible gas sensor of claim 3 wherein the resistance of the thermistor decreases with increasing temperature and the thermistor network is in serial electrical connection with the active element.

Claims 6-7 (canceled)

Claim 8. (currently amended) A measurement circuit for use in a combustible gas sensor, the measurement circuit comprising: [[an]] a catalytically-active element in electrical connection with a thermistor network adapted to compensate for the effect of changes in ambient temperature to the resistance of the catalytically-active element

without compensating for heat lost by thermal conduction from the catalytically-active element.

Claim 9. (original) The measurement circuit of claim 8 wherein the thermistor network includes a thermistor and at least one resistor.

Claim 10. (original) The measurement circuit of claim 9 wherein the thermistor network includes a first resistor in series electrical connection with the thermistor and a second resistor in parallel electrical connection with the thermistor.

Claim 11. (original) The measurement circuit of claim 9 wherein the resistance of the thermistor increases with increasing temperature, the thermistor being in one leg of a bridge circuit and the active element being in another leg of the bridge circuit.

Claim 12. (original) The measurement circuit of claim 9 wherein the resistance of the thermistor decreases with increasing temperature and the thermistor network is in serial electrical connection with the active element.

Claim 13. (canceled)

Claim 14. (currently amended) The measurement circuit of claim 8 wherein heat loss from thermal conduction is less than approximately 10% of the heat generated by a reaction catalyzed at the catalytically-active element at full scale.

Claims 15-20 (canceled)

Claim 21. (new) The combustible gas sensor of claim 1 wherein the thermistor network comprises a thermistor.

Claim 22. (new) The measurement circuit of claim 8 wherein the thermistor network comprises a thermistor.

Claim 23. (new) The combustible gas sensor of claim 2 wherein the thermistor network includes a first resistor in series electrical connection with the thermistor and a second resistor in parallel connection with the thermistor and the first resistor.

Claim 24. (new) The measurement circuit of claim 9 wherein the thermistor network includes a first resistor in series electrical connection with the thermistor and a second resistor in parallel connection with the thermistor and the first resistor.

Claim 25. (new) The combustible gas sensor of claim 23 wherein the resistance of the thermistor increases with increasing temperature, the thermistor being in one leg of a bridge circuit and the active element being in another leg of the bridge circuit.

Claim 26. (new) The combustible gas sensor of claim 23 wherein the resistance of the thermistor decreases with increasing temperature and the thermistor network is in serial electrical connection with the thermistor.

Claim 27. (new) The combustible gas sensor of claim 24 wherein the resistance of the thermistor increases with increasing temperature, the thermistor being in one leg of a bridge circuit and the active element being in another leg of the bridge circuit.

Claim 28. (new) The combustible gas sensor of claim 24 wherein the resistance of the thermistor decreases with increasing temperature and the thermistor network is in serial electrical connection with the thermistor.

Claim 29. (new) The measurement circuit of claim 14 wherein heat loss from thermal conduction is less than approximately 5% of the heat generated by a reaction catalyzed at the active element at full scale.